WAP #	Work Description	Statement of Work	Organization Code
100.0-003-03	Strategic Analysis Intern	The Inter/Associate will provide support to the Directorate Integration Office (DIO) of the Exploration Systems Mission Directorate at NASA Headquarters in Washington, DC. The support will focus on ESMD Analog coordination and documentation; coordinating activities with other government agencies and industry in support of technology analysis; and coordination and organization of the Outpost Science Exploration Working Group (OSEWG) - a multi-Directorate team merging science and science requirements with the Exploration Architecture to identify, track and determine science related objectives for the lunar missions.	7W79
100.0-004-00	Communications Policy Support of SIMO at NASA HQ	The Exploration Systems Mission Directorate (ESMD) at NASA HQ has a requirement for a graduate student who is trained in science, engineering and/or space policy to assist the Strategic Integration and Management Office (SIMO) to perform its assigned mission. The employee will be assigned to work with the transition, education and public outreach teams as required. Duties will include analysis of NASA education and communications policy for program development, execution and evaluation; and developing applications based on this analysis that are applicable to ESMD's unique mission. Duties will also include integration of program-funded education, communications and transition activities into the overall ESMD program.	7W79
180.0-001-02	IV&V Outreach and Programmatic Support	The goal of this SOW is to support Student Outreach activities including NASA IV&V internships opportunities, Educator Outreach activities, Community Outreach activities, Higher Education partnerships, training, and serving on various Facility committees.	180
410.0-001-04	SAM Instrument	Provide on-site instrument development support for the Sample Analysis at Mars (SAM) instrument suite within the Atmospheric Experiments Laboratory (Code 699). This effort provides the engineering and technician support to design, build and test flight instrumentation and related components and to provide post-launch and mission support for the SAM instrument suite.	699
417.0-001-02	GOES-R Communications Support Services	The National Oceanic and Atmospheric Administration (NOAA) Geostationary Operational Environmental Satellite R-Series (GOES-R) Program provides continuity of operations to meet NOAA's mission. The GOES-R program ensures system users are ready to use the system on day one and NOAA is prepared for the operational changes that will occur with this next generation system. In addition to this internal coordination, the program is responsible for providing audiences beyond NOAA with information and materials related to GOES-R that increase awareness of NOAA's science, products, and services, in order to promote environmental stewardship, personal safety, and an improved economy. The program also educates audiences on the application of geostationary environmental observation data to the world's atmosphere, climate, oceans and coastal ecosystems in order to achieve greater environmental literacy, personal safety, and an improved economy. Audiences may include key stakeholders, the science community, academia, international organizations, the general public, and federal, state, and local agencies. GOES-R coordinates education and outreach activities with NESDIS Headquarters, the NOAA Office of Education, and NOAA Office of Communications. Task members provide direct support to the GOES-R Program Office in the areas of creating scientific and programmatic materials and providing the coordination and logistics support to accomplish the task. Contractor responsibilities include the following: Create an integrated outreach communications strategy for the GOES R Program to include development of core suite of outreach print products and presentations that can be tailored to a wide variety of target audiences. This strategy would include development of core messages, framework for suite of materials, web site analysis, content development and web traffic plan, and possible multimedia products. Development of both inreach and outreach strategy to increase awareness of Program status. Explore and suggest use of innovative communication techniques such as Twitter, Facebook, web blogging (must benchmark best practices/success stories within other govt entities) —— Support the GOES-R Outreach Coordinator and serve as a liaison between NESDIS, NOAA, DOC, industry partners, NASA, and other GOES-R team members. Strategically develop, plan, and assist with the implementation of outreach products within budget and established deadlines. Spearhead development of audience specific and scientifically focused, outreach materials and web content for primary target audiences that showcase value of the Next Generation GOES-R suite of satellites. Lead graphic design, editing and content review of all materials to ensure cohesiveness across materials and across all communication efforts. Develop unified suite of print-ready products for NOAA or NASA Printing Offices in accordance with all Agency print and communications guidelines. Responsible for conducting submission of monthly task reports, integrated outreach strategy and performance analysis/metrics. Develop and implement annual outreach strategy in line with GOES-R and related mission statements and NOAA education and public outreach objectives. Establish and provide consistency, congruity, clarity and focus in all integrated outreach communications activities (e.g. strategies, material development, and venues) & communication of message in the presentation of all GOES-R data information, products, services, and tools. —— Form partnerships and work collaboratively between NOAA and NASA working groups Provide support to the Public Affairs Office (PAO) as well as the Legislative Affairs Office (LAO) during relevant NOAA, NASA or other local events.	417
426.0-001-02	Earth Sciences Story Development for GSFC	Develop Earth Sciences Stories with concentration on Goddard Space Flight Center and specifically on the GLORY Mission. Develop web content for Goddard sites as well as press releases and articles based on Goddard Earth Science Mission activities, research and development. Support the Goddard Public Affairs Office in it's outreach activities.	130
427.0-002-03	Landsat Data Continuity Mission Support	The LDCM Project requests part time support for a technical writer/presentation support employee to support our upcoming MDR and many other technical reviews. Experience in gathering and researching technical documentation from a variety of staff members is needed. Ability to use power point and other presentation tools is required. Coordination and organization skills are required as many of the documents and presentations will be used repeatedly throughout the next 12 months.	427

443.0-001-04	JWST Information Management	This Work Activity coordinates and supports the use and security of JWST Program IT resources. This Work Activity also coordinates and supports the maintenance and development of the JWST world wide web presence. Functions under this Work Activity include: A. Serve as JWST webmaster, maintain server computer, server software and website layout, format and content. HTML, XML, XSL, CGI, Perl and Java programming as needed to maintain the WWW site and features. B. Serve as application software administrator for JWST project applications, such as Doors (requirement tracking), Citrix (secure remote access), Matlab, Meeting Maker (calendaring). Where appropriate, administer server computers, hardware and software. Provide user support. C. Advising Program on program-wide IT system upgrades and improvements. Includes studying and recommending new products, coordinating major IT purchases with Project Office, coordinating testing and reporting of program-wide software (e.g. MeetingMaker). D. Participate in and administer project communications efforts, including support for JWST Videoconferencing and WebEx (virtual meetings). E. Perform as Alternate Computer Security Official(s) for the JWST project and maintain project IT security, including: 1. Coordinating and verifying patch and/or upgrade efforts for program wide servers and in conjunction with the HSTNet group as needed. 2. Interacting with HSTNet, Code 400 and GSFC Center IT security groups as well as those security groups from other entities working with the program (e.g., STScI, Prime contractor, instrument teams). 3. Ensuring JWST program compliance with computer security procedures (NPR 2810) and computer accessibility rules (Section 508 and the relevant GPGs) F. Act as IT technical point-of-contact between JWST program staff and HSTnet, ODIN, Code 400 and GSFC. Coordinate network architecture and network security plan with HST network team, as well as directorate and center organizations. G. Administer Wolfworks Integrated Modeling Facility. Maintain workstations and AV equipment, install and upgrade system engineering software, maintain hardware, software, operating systems, network and IT security. Support the developers of the customized integrated modeling software tools as needed. H. Administer Windows and Macintosh computers located in the JWST Wavefront Control Testbed, responding to security or upgrade issues as they arise. I. Support for JWST Education & Public Outreach functions, including public website content management, production of outreach materials, and participation in ASD outreach efforts (podcasts, etc.) that publicize JWST.	443
544.0-002-01	CLARREO Mechanical Design	Provide expert mechanical and opto-mechanical design support for the CLARREO instrument concept in the following areas: (1) Optics Packaging - Iterate the packaging of the various optic elements within a specified volume. Iterate the optic-mechanical mounting concepts considering the optic interface, mount structure and instrument bench design taking into consideration optic sensitivities (stability and temperature delta, etc). (2) Instrument Structure - Iterate the instrument housing/structure such that the need for separate optic mounts is minimal (i.e. the optic would mount directly to the housing via some tailored interface). (3) Filter Wheel - Iterate the current ISAL design to again reduce some risk. Mechanism volume, mechanism for stability over and observation, actuator and bearing selection, etc are candidates for investigation.	544
551.0-002-01	JWST ISIM Optics Test Planning Support	The Integrated Science Instrument Module (ISIM) Optics Team supports the James Webb Space Telescope Project at Goddard Space Flight Center. The Optics Team will provide support for Optical Verification of the ISIM Element (includes metering structure and Science Instruments) in the SES Chamber at Goddard. The contractor shall support the team in developing and documenting the optical test flows, plans, procedures, and data analysis tools required for ISIM Element level verification of optical requirements during ISIM CryoVac 1 and 2 tests. Team members will also be asked to identify key optical and/or data analyses that need to occur to prove feasibility of the recommended test or analysis approach. The optical requirements to be verified during these tests have been parsed to 6 Optical Performance Requirements Groups (OPRGs). Each OPRG contains a set of separate related optical requirements that need to be verified. The categories are: 1. Optical Baseline and Calibration Group (OBCG) 2. ISIM Capabilities (OPRG1) 3. Focus, Plate Scale, Wavefront Error (OPRG2) 4. Pupil alignment, Pupil Shear and Roll (OPRG3) 5. Field of View, Vignetting, Stray Light (OPRG4) 6. Co-Boresight Stability (OPRG5) 7. WFS&C (OPRG6) The test planning team will also define the optical baseline for each SI to serve as an early ISIM element level performance baseline against which relative changes in instrument performance can be tracked during the test campaign.	551
552.0-001-04	Cryogenics Laboratory Support	This activity provides support for research and development in low temperature thermal, physics, and Astrophysics.	552
553.0-001-01	Large Format Array Testing Support	GSFC has a requirement to develop large format bolometer arrays for ground based, airborne, and balloon-borne astronomy. This work involves the testing of microbolometers and related microelectronics devices. The facilities required for this work are located primarily in the GSFC building 11. The contractor shall provide engineering support for the testing of superconducting films and related devices. The in-house contractor shall follow established written procedures and laboratory practices and adhere to all Code 553 Branch Safety Policies. Training will be provided by Code 553 Branch personnel. At no time will the contractor be expected to operate the Kelvinox 25 Dilution Refrigeration system without supervision/assistance by trained personnel.	553
556.0-002-03	Fast Plasma Investigation (FPI) Mechanical Design	Shall provide mechanical design support for the development of the MMS Fast Plasma Investigation (FPI) Instrument Data Processing Unit (IDPU) and the Dual Electron Spectrometer (DES) instrument. Currently, effort is required to finalize the DES Electronics and IDPU electronics assemblies for flight readiness. Knowledge of specialty instrument design along with high voltage design is a necessary. Designing these instruments with the emphasis on manufacturability and reproducibility is key, due to the challenge of reproducing 17 exact copies of a complex instrument.	673
585.0-002-00	Software Process Inprovement Support	The contractor shall support the GSFC Software Process Improvement Project (SPI) in advancing NASA's and GSFC's software engineering practices to effectively meet the scientific and technological objectives of NASA and the GSFC. This effort will specifically support NASA software engineering training requirements.	
586.0-004-07	Science Processing Support Office	Activities are focused on the collection and analyses of the archival, distribution and user metrics related to EOS and non-EOS products that are archived and distributed at NASA-sponsored data centers. The results of the metrics analyses are used to ensure optimal utilization of the resources allocated to such data centers. The objectives of this effort are to 1) support the operation of the ESDIS Metrics Systems (EMS); 2) collect and analyze the ingest, archive, distribution and user metrics and perform special metrics analyses; 3) develop. maintain and enhance multiple ESDIS-related web sites; 4) provide system and database administration support; and 5) perform as primary ESDIS Interface Coordinator for all instruments whose data are archived and distributed at ASDC (MISR, TES, MOPITT), and perform as backup ESDIS Interface Coordinator for AMSR-E and GLAS, and provide administrative and technical support to the ESDIS Project and Instrument teams.	423
587.0-001-04	ESDIS Outreach Support	General information about the work, high-level overview Earth Science Data and Information System (ESDIS) Science Operations Office (SOO) manages the data centers that process, archive, document, and distribute data from NASAs past and current Earth System Science research satellites and field programs. Work activity members provide direct support to SOO in the areas of creating and marketing data and services outreach materials and providing the coordination and logistics support to accomplish the task. The purpose of this task is to promote the interdisciplinary use of Earth Observing System Data and Information System (EOSDIS) resources including data products, data services, and data handling tools to a broad range of existing and potential user communities.	423
601.0-001-04	ASD Technical Support	This activity provides support for the design, construction, analysis, and troubleshooting of electrical/electronic systems in the Astrophysics Science Division.	660.3
601.0-002-05	Time Dependence of Stellar Phenomena Observed in IUE Spectra	The objective of this work is to extend and complete work on the improved, SWP extraction software for extracting echelle spectra from NEWSIPS SIHI images and extend it to operate on long wavelength, LWP and LWR, data.	695
605.0-002-02	SSDOO Mission Planning	The Contractor shall participate in identification, evaluation, and testing of mission planning automated tools and techniques and support the infusion of viable technologies into the GSFC mission planning process.	605

605.0-003-02	Science Proposal Support Office Services	The Science Proposal Support Office (SPSO) assists Goddard scientists and technologists in responding in a timely and effective manner to proposal opportunities offered by NASA and other Government agencies. Various SPSO services are available to GSFC civil servants and contractors, including proposal strategic planning, red team support, budget preparation, and NSPIRES data uploading.	665
605.0-004-02	Code 605 Mission Cost Modeling	The contractor shall: (1) Support Code 605 mission planning and formulation activities using NASA cost estimating methods, tools and techniques. (2) Obtain training as necessary to provide support with cost estimates prepared using the NASA Air Force Cost Model (NAFCOM) and the NASA Instrument Cost Model (NICM). (3) Support parametric cost modeling in the Instrument Design Laboratory (IDL). (4) Support parametric cost modeling in the Mission Design Laboratory (MDL).	605
606.0-006-02	SED Data Center Support	The Sciences and Exploration Directorate is establishing a consolidated Data Center to house servers that support Code 600 requirements. The goal of the consolidated Data Center is to better manage the Directorate's IT, to meet Agency mandates and initiatives for consolidation, and to address the need for a Data Center remote from Building 34 to support science users. This Data Center should be efficient and meet end-user needs. The servers should employ virtualization where appropriate. The servers shall also support the Code 600 consolidated web site(s).	660.2
606.0-007-02	Directorate IT Security Support	The contractor shall support the Code 600 DCSE in planning/coordination, security process improvement, policy development, and metric collection.	606
606.0-011-01	SED Web Council Development Support	The GSFC Code 600 Web Council is overseeing the development of the re-design of the SED Line Organizations' web sites. The new design has three major sections: Organizational pages, Science & Engineering Professional Resources pages, and E/PO Resources pages.The effort has high visibility as the Directorate strives for a uniform look and feel and structure across all projects and labs.	606
606.0-013-00	Support for the HSEG Software Suite	Provide software engineering support for the Hierarchical Segmentation (HSEG) software package. HSEG is a sophisticated pre-processor for image and image-like data that detects patterns in data efficiently by segmenting the data and processing it using conventional serial computer architecture or, optionally, using parallel architecture. HSEG is a mature software package, with a stable, moderate-sized source code base. This work activity is focused on developing rational and well-documented configuration management processes, verification and validation processes, and tools for building and	606.3
606.1-002-05	HECN Network Support	The contractor shall provide a range of technical services from strategic network planning to operational network management to meet the HECN requirements of the CISTO. In particular, the contractor shall design and develop high speed network architectures, conduct networking technology assessment and product evaluation, perform network systems hardware and software installations and configurations, perform network system administration, and support network-related user help desk activities for the CISTO The HECN involves world class network engineering for advanced networking technologies, protocols, and applications, in such areas as optical networking, wave division multiplexing (WDM), fixed and adaptive wavelength transponders, single and link-aggregation of multiple 10-Gigabit Ethernets (soon also 40- & 100-Gigabit Ethernets), storage area networks (SANs), High Definition based video conferencing, wireless networks, multicasting, QOS/COS, dynamic circuit provisioning using MPLS/GMPLS, alternative TCP and UDP transport protocols, and application performance optimization for very high bandwidth*delay networks. This world class expertise is applied across LAN, MAN, and WAN environments, including across high performance international networks. SPECIFIC REQUIREMENTS ==>> New Network Planning and Design a. Requirements definition. Collect and analyze user/project requirements in terms of network capacity, capabilities, adherence to standards, science benefit, budgetary constraints, and timetables. Develop an understanding of network user goals and derived requirements. Define processing and throughput requirements to be satisfied. b. Research Alternatives. Research alternative possible solutions to achieve identified user/project network requirements, through searches and examination of network literature on relevant state of the art network technologies, discussions and meetings with network equipment and service providers on their new capabilities, and collaboration with other partner advanced network engineering staffs. Identify processing and throughput capabilities of vendor products such as handling of Jumbo Frames, round robin packet assignments, port load balancing, or achieving certain throughput. c. Design options. Develop network design alternatives utilizing available leading edge network components, evaluate and select the optimum design solution based upon extensive in-depth knowledge of technology areas, and devise and prepare for appropriate network prototyping activities in support of the selected design. d. Develop conceptual designs for review by users and Center management to assess adequacy in meeting various requirements. e. After successful network prototyping activities, plan and design for the infusion of new advanced network technologies and services into the production high performance SEN. ==>> Network Prototyping a. Product Selection. Based on design criteria and initial evaluations, select candidate vendors and vendor equipment for extensive in-house testing. For unproven technologies, obtain loaner equipment in advance of purchase to validate proof of performance capabilities and reduce overall project costs. b. Product Acquisition. Assist with acquiring the required components for the network prototyping, or subsequently for production deployment, whether via procurement, vendor loaner equipment or beta tests, or equipment provided by collaborating network organizations. c. Product Testing. Develop test scenarios, determine best product configurations, and conduct product testing to determine the accuracy of vendor claims, interoperability and suitability to our environment. Beta test emerging products and perform collaborative testing with other projects internal and external to Goddard. Design configurations to stress test various products and make most effective use of limited resources. Perform objective measurements of product capabilities. Provide feedback to the vendors about problems and desired enhancements/changes. d. Prototype System Test and Evaluation. Initial prototyping focuses on individual component testing, to evaluate and select among competing vendor equipment. The later stages of network prototyping involve combining the selected network components into a network system that is intended to model a future new production network capability, evaluating performance of the system as a whole and the proper interoperability of all its components, identifying any problem areas, and devising and testing solutions for any identified problem areas. System testing may involve network emulation of LAN, MAN, and WAN network environments to speed up network prototyping activities, reduce overall project costs, and provide a baseline for subsequent real world testing. Develop test plans for system verification. Configure equipment to enable tests to be conducted. Run tests which may involve network simulation, configuration of physical and logical (virtual) Local Area Networks (VLANs). e. Based on product and prototype system assessments, provide expert reviews, suggestions, and recommendations for purchases to implement desired new network capabilities. ==>> Deployment of New Networking Capabilities a. Develop an integration plan for adding new networking capabilities with minimal disruption	606.1
606.3-003-06	Direct Readout Data Systems Design and Development	Provide software support for the NPP In-Situ Ground System (NISGS). Provide System Administration support for the Direct Readout Laboratory. Work scope includes: Provide support for system administration and IT security as described below for all Direct Readout Lab computer systems on the CNE and SEN networks. Note, the computers identified below have unique requirements and must be administered in close coordination with DRL developers. All computer systems: - are to be configured, maintained and managed in accordance with the NIST 800-53 technical controls as specified in the CD-014-L-GSF-6004 IT security plan where applicable unless specifically identified and documented in the plan as a deviation and approved as an acceptable risk by the plan's system owner. - are/will be configured to be in compliance with all Agency and Center mandated IT security controls within their prescribed deployment schedules including the installation and configuration of Patchlink, CIS, FDCC and Active Directory where applicable unless specifically identified and documented in an approved waiver. - will remain as current as possible with operating system and third party software patches and upgrades with a best effort deployment of within 30 calendar days from vendor release for those with risk ratings of "critical" or "high" unless constrained by mission "freezes" or other critical operational requirements. - will remain as current as possible with anti-virus and anti-spyware software and definition files where applicable with these systems typically configured to automatically download updates and run scans at least weekly. - will be maintained such that vulnerabilities found from Center scans will be corrected, mitigated or documented as a false positive with a best effort deployment of within 30 calendar days for those with risk ratings of critical or high unless constrained by mission freezes or other critical operational requirements. - will be maintained in accordance with NPR 1600.1, section 5.24, for all systems containing data defined as sensitive per NPR 1600.1. The following DRL computers have unique requirements: fedora8, centos, ubuntu7, drl-test32, is (CNE), is (SEN), nisfes (CNE), nisfes (SEN), nisds1 (CNE), nisds2 (CNE), nisds1 (SEN), nisds2 (SEN), drlt1, drlt2, drlt3, drlt4, dev1, dev2, dev3, dev4	606.3

610.0-001-04	EOS Project Science Office Support	This Activity provides logistical and scientific support for the Earth Observing System (EOS) Project Science Office.	613.2
610.0-002-05	MODIS Atmospheres Product Support	Provide support for the maintenance of MODIS Joint Atmospheres product (MOD08) software and web sites related to Code 610 activities.	613.2
610.0-003-03	Special NASA HQ Requests Activities	Support activities associated with all aspects of special NASA HQ presentations.	613.2
610.0-004-03	NASA SMD HQ Outreach Support	General Objectives Provide design, development, and reproduction services for public outreach materials for NASA Headquarters, and conference support for NASA Headquarters Science Mission Directorate.	613.2
610.0-007-10	Earth Science Story Development	The NASA Earth Science News & Information Team has responsibility for promoting newsworthy EOS, Heliospheric and other NASA-funded Earth science research through the news media.	610.3
610.0-011-14	AVDC Support	This Work Activity (WA) supports the development and maintenance of the Aura Validation Data Center (AVDC).	613.3
610.0-013-02	Applied Science Communication and Outreach	Provide support to the NASA HQ Applied Sciences Division. This includes: conference support, graphic design, publication production, multi-media product production, and other outreach services.	613.2
610.0-014-01	Terra Project Science Office Support	Employee will support the Terra Project Science (PSO) office in the area of technical data acquisition, will aid in the preparation of reports, presentations, and published materials both directly related to Terra Project Science and related research efforts. Employee also provides editorial support to the PSO in the preparation of the response to the 2009 Senior Review Panel as needed. Currently this consists of (but is not limited to) acquiring UNFAO and other supporting data on human consumption for input to NPP models. Employee will make contact with others as needed to accomplish tasks as assigned. The employee will also support the PSO in preparing for Terra's 10 years on-orbit science and public outreach efforts. This will consist of a combination of editorial work and planning with the EOS outreach coordinator(s). Part of this effort will be to support Terra at 10 - a Fall 2009 AGU special session consisting of 4 sub-sessions, a special addition to the NASA exhibitors booth, and a courtesy room. Employee will accompany Terra Team to AGU.	703
610.2-071-75	Global Change Master Directory	Provide dataset and related Earth Science services metadata and make available to scientists, students, educators, and policy makers through an online search and retrieval system.	610.2
610.2-072-75	International and Interagency Report	Support the Committee on Earth Observation Satellites (CEOS) International Directory Network (IDN) and Federal interagency metadata management and science activities.	610.2
610.2-073-76	Public Health Project Support	The contractor will provide programming and analysis support in using remotely sensed data for public health related research and development. Specifically: #1. Identify suitable remote sensing and disease data for the project. Process the data to the required spatial and temporal resolution. Document developed software and processing procedures. #2. Perform modeling and analysis using mathematically rigorous and scientifically meaningful methods in a timely manner. State-of-the-art methodology should be used whenever possible. Document developed software and analysis procedures. #3. Support presentation, manuscript writing, and proposal preparation.	610.2
610.2-074-77	ESDSWG Website Maintenance	This activity will maintain and enhance the information pages that describe the on-going work in support of overcoming NASA's Earth Science data system challenges. The contractor will provide support for: - the Earth Science Data System Working Groups website (formerly known as the Strategic Evolution of ESE Data Systems, SEEDS), - the Research, Education, and Applications Solutions Network (REASoN) website, the Private REASoN website, the EOSDIS Evolution page, - the REASoN/ACCESS/MEaSUREs e-Books software and website, and the Metrics Collection Tool software and website, and the Single Sign-On authentication service for them.	610.2
610.2-076-79	Support for the Precipitation Processing System (PPS)	The contract shall provide support for the Precipitation Processing System (PPS) in code 610.2 in two broad areas: the processing of TRMM data and the development of the Precipitation Processing System to support the GPM and potentially other precipitation missions.	610.2
610.2-077-80	Decision Support System (DSS)	Provide science data support for project partners, including ingest, archive, value-added data processing, data access services, documentation, and outreach. - Operational data flow: Maintain AMSR-E data flow - Documentation: Prepare inputs to project final report (9/30/10)	610.2
610.2-078-03	Glory Science Data	Set up and maintain Glory science data system within GES DISC. Compile metadata specifications for data products to be archived and distributed from GES DISC. Test and configure interfaces with Glory data providers. Test Glory science data system, including end-to-end testing in preparation for operational data flows. Establish and maintain Glory science data archive. Provide science data support for Glory data sets, including data set documentation, identification of value-added products and services and responding to user queries for data and information. Identify opportunities to leverage science data support activities with similar data sets available through the GES DISC. Transition appropriate routine activities to the Operations Group.	610.2
610.2-082-02	GCMD Support of USGS Biological Resources Division	- The Biological Resources Division (BRD) coordinator will make contacts with scientists based on BRD suggestions, in order to develop leads for Metadata creation. - The BRD cooddinator will use the SMMS tool to create National Biolgical Information Infrastructure (NBII) metadata. - The coordinator will use Global Change Master Directory (GCMD) conversion tools where metadata already exist in either DIF or another format. - The coordinator will provide user support for users of biological/ecological data set information in the GCMD and NBII - The coordinator will provide a liaison between the GCMD and NBII technical staff on technology development, including distributed indecies and searches, metadata crosswalks, etc.	610.2
610.2-084-01	YOTC- Year Of the Tropical Cyclone	Develop a Giovanni instance or portal for YOTC which will initially involve using Level 3 gridded data (~20 distinct data sets with hundreds of geophysical parameters) allowing working with maps at various vertical levels and the corresponding averaged profiles. Another goal of Giovanni-YOTC will deal with the higher resolution Level 2 data (~25 distinct data sets). The data in Giovanni-YOTC will be coming from AIRS, MODIS, TRMM, MLS, CloudSat, CALIPSO, QuikSat, AMSR-E, GPS, and other space borne sensors. Giovanni-YOTC will extract and provide to users as a package only parameters appropriate for YOTC. These data also will be made available for online search through Mirador, the GES-DISC developed search engine, by space-time location and by event.	610.2

610.2-085-01	ACP- Atmospheric Composition Portal	Provide a new portal (Atmospheric Composition Portal- ACP) to facilitate transfer and display of Atmospheric Composition NASA-GSFC and Forschungszentrum der Bundesrepublik Deutschland Luft- und Raumfahrt (DLR), Germany's national research center for aeronautics and space. This portal will provide data and web-based service related to atmospheric composition datasets that can be searched and filtered (L3 data sets). A part of the effort is to develop appropriate community requirements and use cases with the science and user communities and to foster relationships with other organizations; develop a detailed description of the interoperability framework for the datasets and tools and provide description of data, metadata, and interface standards and protocols and guidance for their implementation. Deliver a Beta release of the portal.	610.2
610.2-086-01	Monsoon Asia Integrated Regional Study (MAIRS)	Develop and maintain Monsoon Asia Integrated Regional Study (MAIRS) data and information services center (DISC) focusing on the support of MAIRS data products and services. The GES GSFC MAIRS effort will highly leverage the already developed components and data from the successful NASA NEESPI Data Center. Support shall include a Web portal, Giovanni visualization services, data access, and outreach activities including helping Nanjing University of Information Science and Technology (NADSC) staff and MAIRS scientists in use NASA satellite remote sensing data.	610.2
610.2-087-01	MDSA- Multi-sensor Data Synergy Advisor	The Multi-Sensor Data Synergy Advisor (MSDSA) is a framework, including software, ontologies, rulesets and related tools, which aims to advise and help NASA Decadal Survey missions data users in a number of operations involving multiple datasets: data merging, cross-calibration, validation, cross-comparison and fusion. This framework will provide scientists improved access to data and software tools and the ability to discover and consolidate shared services for more effective use of data in the science community. By allowing researchers to combine and compare data from multiple sensors, such that scientifically and statistically valid conclusions can be drawn, the MSDSA will enhance cross-mission synergy and enable the creation of new information products (e.g., merged parameters from separate satellite platforms that increase global spatial and/or temporal coverage). This is a collaborative effort involving NASA, Univ. of Maryland (Baltimore Campus), Rensselaer Polytechnic Institute (RPI) as man collaborators. SESDA II staff provide supporting data and development services according to the priorities that are identified by the task. Deliverables and services provided are in accordance with the requirements of this work activity.	610.2
610.2-088-01	Web GCDC	Provide Web support for Global Change Data Center management which include but not limited to: * web application setup * web design and development. * web prototype * user support	610.2
610.2-089-01	H-DISC Maintenance	This WAP support ongoing activities within the Hydrology Data and Information Services Center (HDISC), including data-support for: - Routine ingest and archive of GLDAS, NLDAS and related data sets, including reprocessed data - Data reconciliation with data providers - Data distribution to the science user community	610.2
610.2-090-01	M-DISC Ancilary	Provide GMAO-5 and MERRA ancillary data support to ensure that NCEP, and other ancillary data products, if any, are available to GMAO-5 and MERRA data processing, with a goal for uninterrupted service. If ancillary data delays occur, personnel will be notified and respond immediately to ensure ancillary data will again be available to GMAO-5 and MERRA processing. Interruption to delivery recovery will be minimized and recovery attempts must commence upon notification.	610.2
610.2-093-01	Long Term Aerosol Support	This effort is to provide support for externally funded task on Long Term Aerosol. The task consists of research or services provided by the GES-DISC staff in support of Long Term Aerosol related tasks.	610.2
610.2-094-01	AeroStat	AeroStat will provide a collaborative research environment where aerosol scientist can seamlessly share AeroStat workflow execution, algorithms, best practices, known errors and other pertinent information with the science community so other users of the system can reproduce their results. AeroStat will allow users to share the full details of individual case studies by publishing them on a Wiki.	610.2
610.2-095-01	MEaSUREs Data at the GES DISC	Seven MEaSUREs Projects will be delivering datasets to the GES DISC for archive and distribution starting in 2011. This WAP constitutes the "MEaSUREs Mission at the GES DISC" in support of this activity. These datasets will require joint planning with the dataset providers and DISC staff to ingest, archive and distribute these data to the science user community. GES DISC will provide operational science data support for these datasets. The GES DISC approach is to implement a standalone system that re-uses GES DISC system components (e.g., S4PA) that will house the data archive and distribution of all 7 projects. Thus, theoretically, the MEaSUREs data management must not impact the management of other datasets already resident at the GES DISC in a negative manner, and vice versa. Appropriate capabilities for data archive, search, and access afforded existing GES DISC datasets will also be provided to the MEaSUREs datasets. Advanced data services (e.g., subsetting, format conversion) will be investigated and implemented where appropriate.	610.2
610.2-098-01	Data Quality Screening Service (DQSS)	Leveraging existing technology, develop and maintain a system that will allow the user to apply quality screening on the fly. The service will be deployable as a simple REST (Representational State Transfer) Web Service at the data provider, taking as input the original data product and producing as output the same product, but with quality screening applied according to the science team's recommendations.	610.2
610.2-100-01	LANCE Near Real Time support	Integrate appropriate products and services into the near real time systems for AIRS and MLS. Troubleshoot NRT science data processing and data distribution services as needed. Provide documentation on NRT products and services and make these available to the NRT web site as appropriate. Provide off hours monitoring and troubleshooting of the NRT systems.	610.2
610.2-101-00	Software Engineeing	Provide Software engineering services in support of the GES-DISC particularly as relates to Mirador, Interoperability Standards, Agile Giovanni as well as systems engineering support for GES-DISC activities. Implement Agile Giovanni based on a loosely coupled, workflow-centric architecture. Agile Giovanni is expected to be the next generation data analysis and visualization for science data exploration at the GES DISC. Maintain and enhance data availability through the OpenDAP interface. Enhance and support the HTTP Services framework and netCDF conversion capabilities. Maintain Mirador interface and server services. Maintain S4PA archiving software, including the interface to ECHO. Provide systems engineering support for non-ECS systems. For non-ECS operational systems, Support Agile Giovanni sprints and enhancements.	610.2
610.2-102-00	Giovanni (G3M)	The work for this effort is to continue maintaining and enhancing the current Giovanni 3 (G3). G3 enhancements should be based on guidance and requirements as developed by the science team from the various DISC science projects. The new direction for the GES-DISC Giovanni visualization is to switch to Agile Giovanni, so the activities and services in this WAP should be limited to enhancements that are considered as not requiring significant efforts and not requiring infrastructure change.	610.2
610.2-103-00	Multi-sensor Inter-comparison	Identify and merge like data parameters from different datasets. To select appropriate datasets, and develop and maintain scientifically justified data merging software for chosen parameters.	610.2
610.2-104-00	P-DISC	Develop a precipitation data and information services center. Develop a web-based Data and Information Services Center to serve the needs of the precipitation science community.	610.2

610.2-105-00	ACDISC	Support the Atmospheric Composition Data and Information Services Center (AC-DISC). Provide User Support, documentation, public outreach and data services related to Aura OMI, MLS and HIRDLS data. Preserve and support Atmospheric Composition historic data from UARS, TOMS, etc.	610.2
610.2-106-00	Atmospheric Dynamics DISC	Develop a data and information services center (DISC) focusing on the support of Aqua AIRS data products and services. Integrate AIRS algorithm code into the science data production system at GES DISC. Develop test plans and schedules as needed. Provide support to Near Real Time (NRT) data acquisition, product generation and data distribution. Discuss algorithms and science support with AIRS algorithm providers. Engage the AIRS and atmospheric dynamics user community for data access, data usability and information and services relevant to AIRS and related data products. Develop documentation and tools that facilitate data analysis and visualization, data interoperability and usability. Maintain and enhance Giovanni instances for AIRS data products. Support the transition of appropriate tasks to the Operations Group.	610.2
610.2-107-00	Modeling DISC	This effort will support and be responsive to scientists and users of Modeling DISC data which include GEOS-5, MERRA, GOCART, ancillary data (e.g. WMO, NOAA/NESDIS, and NOAA/NCEP), and other data as deemed appropriate. The effort also generally supports the MDISC Web portal, online documentation, data access, data services that facilitate maximum usefulness of the data, and outreach activities that promote the Modeling DISC (MDISC) through which feedback from the user community on the MDISC can be collected and applied.	610.2
610.2-108-00	Mission Support	The Mission Support task covers the operations of and operations engineering for all GES DISC systems. This effort covers monitoring and supporting the nominal data flows and resolving and recovery from anomalies and problems. The effort also includes development of system utilities and automation to enhance the systems beyond their delivered capabilities. Such system utilities and automation will handle new anomalies and problems after they are encountered. This effort shall also include a consolidation of all metrics reporting across the GES DISC into this single activity with a goal of reducing effort duplication and establishing consistency of report for all GES DISC activity.	610.2
610.2-109-00	Infrastructure	Perform sustaining engineering and system administration tasks for non-ECS systems. For non-ECS operational systems, perform sustaining engineering and system administration, including on-call support within the terms and scope of the GES DISC's contractually approved On-Call Policy The contractor will provide support for the maintenance, enhancement, and development of the GES DISC Web site. Support shall extend to all public Web servers maintained by the GES DISC. The term "Web site" includes all such Web servers and machines	610.2
610.2-110-00	Security	Provide security support for the development, test and operational systems at the GES DISC. Ensure all GES DISC systems, infrastructure, people and information maintain all required levels of confidentiality, availability and integrity.	610.2
610.2-111-00	Desktop Support	Provide all aspects of project workstation support for the GES DISC including hardware, software and data backup/restores, and logistic support. This work activity requires on-call support as defined within the terms and scope of the GES DISC on-call policy.	610.2
610.2-112-00	Science Support and Help Desk	Provide overall science data support for the use of GES DISC data holdings (i.e., support not already provided through the individual DISCs). Interact with local science laboratories, as appropriate, to ensure their needs/requirements are being fully met by current and/or proposed GES DISC functionality. Ensure proper coordination with elements of other GES DISC groups, including shorter-term, matrixed activity groups, to optimize resource utilization, identify interdependencies, and facilitate task completion. Provide science and help desk support for Giovanni. Support MODIS, MISR, CERES, TES, Ocean Color and other non-GES-DISC data in Giovanni. Promote Giovanni at conferences and meetings. Provide overall monitoring of performance of tasks by the GES DISC Science Group.	610.2
610.2-113-00	Hydrology DISC	Develop and maintain a Hydrology-Data and Information Services Center (HDISC), focusing on the support of hydrology data products and services available from the GSFC Hydrological Sciences Branch. Engage the soil moisture and hydrology user communities for data product identification, data access, data usability, and information and services relevant to HDISC data products. Develop and maintain documentation and tools that facilitate data analysis and visualization, data interoperability and usability. Engage data providers as well as data users to develop collaborations and partnerships. Maintain and update HDISC web portal. Maintain and enhance association with the NASA GSFC Hydrological Sciences Branch and their affiliates. Support the transition of appropriate activities to the Operations Group.	610.2
610.2-114-00	Earth Science Data Recovery	Archive the recovered NSSDC NIMBUS II HRIR data at the GES DISC. The result of this effort represents an expectation of what was on the original tapes - based on JBI recovery performance, and to verify the recovery of the original tape contents.	610.2
610.2-115-00	EP-TOMS	EP-TOMS constitutes a heritage dataset that will be archived at the GES DISC. This effort is set up to interface with the EP-TOMS team and make it possible to transfer and host the data for distribution here at the GES-DISC. As part of this activity, the following is a list of potential activity that will be mutually developed and executed: - collect all information objects from EP-TOMS team - Create DIFs for L1b - Review documentation with PI - Learn about metadata and data - Extraction Metadata - Ingest data into S4PA - Export metadata inventory to ECHO - Make L1b data available via Mirador and ECHO/WIST search interfaces - Supporting ESDIS metrics collection - Design and implement changes to atmospheric web portal - Extract information from documentation to provide a nominal level of support - Provide SA/Ops support for sustaining EP/TOMS services	610.2
610.2-116-00	Technology Evolution	The GES DISC will develop the user interface for Simple Subset Wizard (SSW) and subset Agents. The GES DISC will also specify a schema for capturing dataset information (e.g. subsettable variables) from the participating data centers. The GES DISC will deploy the system on a testbed available for joint testing with participating data centers as well as an operational instance. The GES DISC will also provide metrics on use of the SSW to the EMS system excluding metrics of data transferred via subsetting that will come from the data centers. The GES DISC will facilitate discovery and sub-setting of selected GES DISC datasets through JPL's NIAID system.	610.2
610.2-117-00	Atmospheric CO2 data from Space (ACOS) Project	In collaboration with ACOS Project at NASA JPL, GES DISC will archive and distribute science data products from the ACOS Project. Information will be collected on CO2 and related science data to be supported. Appropriate interfaces will be established at GES DISC to retrieve, ingest and archive science data from the ACOS Project to include data/metadata preparation, system testing and transition to operations for routine ingest. Science data support will be provided for ACOS science data available from GES DISC to include recommendations on metadata and data format specifications, data documentation, web presence, and identification of appropriate data services. Metrics will be collected on data ingest, archive and distribution activities.	610.2

610.2-118-00	External DISC System Support	The objectives of this effort is to provide consulting support for external DISC users to help setup an external data systems using GES-DISC tools like S4PA, S4PM, and to communicate with them to better understand challenges and mitigate risks by implementing such an external data system environment. This external data system is to simulates the projected DESDynI Data System-lidar (DDS-L) functionality and performance solutions. Actual configuration and operation is to be performed by the external non SESDA 2 collaborators and the SESDA 2 role is to provide consulting services in support of standing up such an S4P system. Some initial System Administration and system configuration and setup services will be performed by SESDA 2 staff.	610.2
612.0-004-07	HSD Computer System Support	The contractor shall provide computer and network system administration support to the Heliophysics Science Division.	670
612.1-002-05	STEREO Science Center and SDAC Support	Support the STEREO mission Science Center, including processing STEREO beacon data, distribution of STEREO science data, mission science coordination, educational and public outreach, and related software and computer hardware support. Support the Solar Data Analysis Center (SDAC) in the archival and distribution of data from past, present, and future space solar physics missions, including support for the development of the Virtual Solar Observatory.	671.1
612.1-003-06	STEREO COR1 Support	Provide engineering and scientific support to STEREO Coronagraph (COR1), including logistical and travel support to non-civil service visitors to GSFC and travelers attending meetings on STEREO- and Space Weather-related topics.	671
612.1-004-07	LWS/SDO Science Support	Develop data analysis techniques and software tools to support scientific interpretation of observations from the Solar Dynamics Observatory (SDO). Develop and maintain SDO Web portal.	671
612.1-005-08	Solar Mission Science Operations Support	Shall support science and operations for the Extreme Ultraviolet Imaging Telescope (EIT) and the Large Angle Spectrometric Coronagraph (LASCO) instruments on the Solar and Heliospheric Observatory (SOHO).	671.1
612.1-009-12	Solar Flare X-Ray Data Support	The purpose of this effort is to provide support for obtaining, cataloging, analyzing, archiving, and disseminating various data sets of interest to the members of the Solar Physics Laboratory (Code 671). These data sets include but are not limited to the following: X-ray and gamma-ray data from the Ramaty High Energy Solar Spectroscopic Imager (RHESSI). This will include calibration and test data obtained before launch and all subsequent flight data. Observations complementary to the RHESSI data including those obtained from ground-based observatories and from other spacecraft such as Yohkoh, SOHO, TRACE, CGRO/BATSE, STEREO, Hinode, & Fermi/GBM. All data, software, and analysis results arising from this work will reside in the Solar Data Analysis Center and will be made available to all interested scientists at GSFC and throughout the international scientific community on a non-interference basis. This task also supports development of tools to extend the data analysis capability of the Virtual Solar Observatory (VSO), and the development of a new instrument for measuring the polarization of solar flare X-rays in the energy range from ~10 keV to 50 keV.	671
612.1-010-13	LWS Program Support	Provide logistical and science support to LWS Program Office. Support Education and Public Outreach (EPO) activities for Solar Dynamics Observatory (SDO) mission. Support organization of NASA supported meetings by developing registration websites, assisting with travel logistics (hotel, airfare reservations), and reimbursing non-civil servant travel.	670
612.2-002-05	Cassini/CAPS Software Engineering Support	Provide software and system management support for the Cassini CAPS investigation. Effort provides (1) software development and maintenance of the two systems of Cassini CAPS flight software: Spectrum Analyzer Module (SAM) and Central Processing Unit-2 (CPU2). (2) In close interaction with the technical monitor, staff will design, develop and implement application programs to analyze CAPS data. (3) Effort will provide administrative functions on all Sun workstations, PCs and MACs for the CAPS group.	673
612.3-001-04	Geotail Data Support	This WAP provides database maintenance and technical support for the GEOTAIL satellite.	674
612.3-002-05	Heliospheric Studies	Data analysis support for studies of heliospheric structures using data primarily from the IMP 8 and WIND spacecraft. Perform data processing, and simple data analysis tasks in support of branch heliospheric research. Provide programming support for the development of the Virtual Heliospheric and Magnetospheric Observatories (VHO/VMO). Perform simulations of solar neutron environment in inner heliosphere for comparisons with Solar Probe spacecraft observations.	672
612.3-004-07	CCMC Systems and Network Support	Provide network administration; provide system administration support for peripheral, desktop, and Beowulf cluster systems; ensure adherence to Agency and Center security standards for the Community Coordinated Modeling Center (CCMC).	674
612.3-005-08	Electric Fields Science Support	Data analysis and data management of rocket and satellite data. Accurate analysis of space data. Advances in our understanding of the ionosphere and magnetosphere.	674
612.3-006-09	Rocket-Flight Data Support	The contractor will provide support for analysis of data from NASA rocket and suborbital investigations.	674
612.4-001-04	Voyager Software and Data Analysis	This work activity provides support for processing and analysis of cosmic ray data from the Voyager Cosmic Ray Subsystem and the IMP-8 Goddard Medium Energy (GME) experiment.	672
613.1-002-01	Global Precipitation Mission Outreach Support	1. The contractor will attend Project Science and other mission-related meetings; taking, editing and distributing meeting minutes. These meetings will be several times per month and some will involve national or international travel. The candidate will help coordinate activities and logistics for the meetings as well as assist in presentation development as required. The contractor will research and write articles related to instruments, science, operations and other aspects of the GPM mission. These articles will be posted on the mission website and on other selected media and publications, such as Goddard 'Tech Trends'. The contractor will develop content for other GPM outreach materials including both printed material, brochures, fact sheets, lithographs, reference documents, conference exhibits, and web-based content. 2. The contractor will populate and maintain a GPM website content management system. The contractor will work with IT staff to implement and maintain required security procedures. Work will include working with mission staff to determine changes and implement necessary to the homepage, site pages, navigation, information architecture and functionality, and creating web implementations of selected graphics. The contractor will maintain documentation related to the site.	610.1
613.3-008-03	Long Term Multi-Sensor Ozone Data Record	Support the creation, archiving and release of a long term multi-sensor ozone data record including ozone profile information. Additionally fulfill the requirement of the 'Making Earth System Data Records for Use in Research Environments' (MEaSUREs) program by participating in one or more Earth Science Data System Working Groups (DSWGs)	613.3

613.3-009-02	TOMS History Documentation	The Total Ozone Mapping Spectrometer (TOMS) ozone satellites have been in orbit for almost three decades. Over that time, there have been a number of separate TOMS instruments (Nimbus 7, Meteor-3, ADEOS and EarthProbe), a sequence of retrieval algorithms, and a growing number of data products (total column ozone, Lambertian Equivalent Reflectivity (LER), Aerosol Index (AI), surface UV-B, etc.). While details of various aspects of the TOMS program have been individually published and documented in reports over the years, there has never been a single document that record the details of the instrument, its algorithms and data products. Therefore, at the conclusion of the TOMS series of instruments it is appropriate to provide a complete documentation of the entire TOMS program. This documentation will include brief documentation of the precursors of the TOMS instrument (e.g., the Nimbus 4 BUV instrument) as well as its successor (the Aura OMI instrument) in order to point out the development of instrumental and algorithmic changes. The project will begin by assembling a fairly complete annotated bibliography of sources, both published and unpublished. A timeline of events will be prepared. Interviews with relevant current and retired staff associated with TOMS will be conducted, and recorded in MP3 electronic format. Travel to the 2008 Quadrennial Ozone Symposium (QOS) and to Boulder, CO will permit interviews with scientists who are not currently located in the DC metropolitan area. An outline of the contents will be developed in coordination with staff at Goddard Code 613.3. A prospectus of the documentation, at present assumed to be in book format, will be prepared and circulated to various academic publishers in anticipation of commercial publication and distribution. As drafts of chapters become ready, they will be circulated to relevant Code 613.3 staff and outside cognizant scientists for review. The complete text will be submitted to a team of NASA and outside reviews prior to submission to the publisher. Timetables for intermediate and final deliverables will be developed in coordination with Code 613.3 staff. A CD or DVD of the final text, along with copies of publications (those available in electronic format), a complete annotated bibliography and MP3 files of interviews will be prepared and submitted to the NASA History Division for archiving.	613.3
613.3-010-01	MEASURES Lambertian Equivalent Reflectivity (LER)	NASA Goddard Code 613.3 has been funded under the MEASURES program to establish a long-term, contiguous dataset of the Earth's Lambertian Equivalent Reflectivity (LER). The primary satellite instruments considered in this merged LER dataset are the NASA Total Ozone Mapping Spectrometer (TOMS) instruments, the NOAA Solar Backscatter UltraViolet (/2) (SBUV/2) instruments, the joint US/Dutch Ozone Monitoring Instrument (OMI) and the OrbView SeaWiFS instrument. The TOMS, SBUV(/2) and OMI datasets have recently been reprocessed with the most current retrieval algorithm (TOMS version 8), providing a continuous dataset starting with the Nimbus 7 satellite in November 1978 and continuing to the present. While any one of these datasets is insufficient to determine long-term (multi-decadal) trends in observed quantities, the MEASURES project attempts to assemble a robust long-term, multi-satellite LER dataset with sufficient overlap, from which reliable long-term trends may be derived. Details of the geophysical variability of LER over the last three decades is needed as a baseline for climate models that calculate the Earth's energy balance and cloud tendencies. Primary tasks will include: 1) Finalize a draft paper to The Journal of Geophysical Research (Atmospheres) of the diurnal variability of LER as a function of latitude; 2) Determine the causes of differences (including hysteresis) between the Nimbus-7 TOMS LER and subsequent datasets; 3) Determine the applicability of Nimbus-7 TOMS and SBUV datasets in the context of the merged LER dataset; 4) Apply an algorithm to correct the SeaWiFS reflectivities measured at 412 Ã‚Â±10 nm to an "equivalent SBUV LER" at 340 Ã‚Â±1.1 nm as a function of latitude (and perhaps other parameters); 5) Assist in the writing and preparation of reports and scientific publications; and 6) Attend regular MEASURES Science Team meetings and other related meetings.	613.3
614.0-001-04	GSFC Visitor Center Support	Primary responsibility is to support the installation and operation of the Goddard Science on a Sphere (SOS) located in the Globe Theatre. This includes designing and conducting visitor programs using newly created and existing data sets. The design effort frequently involves working with NASA Goddard\'s science community to bring new data sets to SOS. All of these data sets and programs are made available to the larger SOS User Community worldwide, to promote NASA's science mission. The data sets are used to enhance the use of SOS within the outreach community, to facilitate the worldwide growth of SOS. The Solar System on a Sphere (SSOS) project will bring the most up to date science on our solar system to SOS in a compelling outreach story to support formal education outreach. Again our responsibility is to introduce the data sets on SOS. Support beta testing of new releases of SOS system software, and generate suggestions for modifications and enhancements. Perform upgrades and ongoing improvement of the Visitor Center auditoriums, conference, and exhibit spaces.	614
614.0-003-02	Hubble Space Telescope Outreach Support	1. Sustaining Engineering on HST Exhibit at GSFC Visitors Center - The contractor shall maintain the Smithsonian Institute Traveling Exhibit (SITES) Hubble Space Telescope: New Views of the Universe exhibit located in the main exhibit space at the Goddard Visitors Center. The contractor shall provide maintenance and repairs to the exhibit. - The contractor shall be responsible for upgrading the SITES HST exhibit kiosks with upgraded content based on new HST discoveries and images. - The contractor shall modify the exhibit as necessary to network the computers provide additional power, convert MPEG digital video to required formats, etc. as directed by the government ATR. 2. Installation, De-installation, Relocation, and Sustaining Engineering on Traveling HST Exhibit - The contractor shall be responsible for the quarterly (approximate) de-installation, relocation, and re-installation of a second, smaller HST traveling exhibit and performing the same sustaining engineering functions described for it as described in Item #1 including repair, upgrade, and periodic augmentation with new features. 3. General Support for HST Outreach Activities - The contractor shall provide support for other HST outreach activities including but not limited to: a. the development of new HST exhibits b. webpage content to announce such exhibits c. configuration of equipment to support public talks d. internet hookup to HST public exhibits, etc. - The contractor shall be responsible for purchasing the hardware necessary to perform any maintenance or upgrade, as pre-approved by the government technical monitor.	614
614.1-002-05	AMSR-E Sea Ice Algorithm Validation and Refinement	Support the development and validation of sea ice algorithms for satellite based microwave data. Validate the AMSR-E sea ice products and refine the corresponding algorithms. Convert Windows-based sea-ice algorithm code to run in a Linux enviroment.	614.1
614.1-003-06	MODIS Snow Project Support	MODIS snow and ice data products are maintained and enhanced through the use of image processing, and other methods (e.g., maintenance of the website); additionally, ice caps and the Greenland ice sheet are studied in terms of changes over time. The objective of the MODIS snow and ice work is to maintain the data products and perform validation studies and outreach. The overall objective of the ice cap study is to measure changes in ice cap albedo and surface temperature, and to monitor change in elevation of the ice caps in the North Atlantic over the time period of the Landsat TM and MODIS data.	614.1
614.1-004-07	Remote Sensing Studies of Sea Ice	Develop and update satellite data sets regarding sea ice and climate; calculate and plot a variety of statistics based on satellite data; map sea ice and climate variables from satellite data.	614.1
614.1-006-01	Cryosphere Branch Outreach Support	This effort supports education and outreach activities of the Goddard Cryosphere Branch. Staff be the point of contact for GSFC cryosphere-related education and outreach activities, including the design of overview slides, posters and other outreach material for Goddard management and NASA HQ. Staff will also support design and content development for Branch, IceBridge, and for ICESAT-2 websites. Staff will develop cryosphere-related news stories and alerts and act as liaison to the Public Affairs Office and the Earth Sciences NEWS Team.	614.1

614.1-007-01	Operation IceBridge Science Programming Support	This task will provide science programming support for the Operation IceBridge team at NASA Goddard. Operation IceBridge will gather large amounts airborne data from numerous instruments over sea ice and ice sheets. Airborne instruments include Lidars, Radars, high resolution cameras and a gravimeter. Support will include: - Co-locating large geographic datasets collected by a variety of instruments in different formats. - Processing radar data to formats compatible with other earth science data. - Development and implementation of algorithms to be used in data production - Development and implementation of algorithms to be used in data analysis.	614.1
614.1-008-00	AMSR-E Sea Ice and Snow on Sea Ice Support	This effort provides programming support for the analysis, validation, and utilization of satellite passive microwave snow and sea ice retrievals. Specific work includes: development of new snow and sea ice data products as well as improvement of existing products; retrieval and archiving of snow and sea ice data for use in studies; preparation of graphics for presentations and scientific papers; and documentation of algorithms and datasets.	614.1
614.2-001-04	Physical Oceanography Model Support	This activity provides support to run oceanographic models.	614.2
614.3-002-05	Assessment of NASA Derived Products in IMAAC Models	Support the scientific investigation of the technical monitor on development, calculation and modeling of aerodynamic roughness and other land products for use within hydrologic/hydrodynamic and atmospheric transport modeling 2. Provide analyses results, graphics, and written documentation, and other information for journal publications in a timely manner.	614.3
614.3-003-01	Development and Implementation of Satellite Precipitation Analysis Algorithm CMORPH to AGRMET and AF	In a joint project participation between the NASA GSFC Hydrological Sciences Branch (HSB), NOAA/NCEP/Climate Prediction Center (CPC) and the Air Force Weather Agency (AFWA), the AFWA has made a request to the NCEP/CPC to provide software and assistance to implement the Climate Prediction Center Morphing (CMORPH) satellite rainfall estimation processing algorithm on their mainframe computers. The GSFC/HSB branch also receives funding from AFWA towards improving their land surface modeling system known as AGRMET. They are in the process of transitioning the GSFC/HSB land surface modeling system, known as the Land Information System (LIS; http://lis.gsfc.nasa.gov), into their operations. CMORPH is developed by Wyle professional on CPC contract. AFWA is keen to implement improvements to their precipitation analysis, and one of the ideas of joint project sponsor is to implement both CMORPH and QMORPH at AFWA. The process involved will require the transfer of software and assistance to: obtain HDF orbit file (passive microwave) PMW rainfall, decode these files, map the rainfall to high temporal/spatial resolution, and calibrate the rainfall to TRMM TMI create cloud motion vectors from the CPC global 30 minute maps of merged 4 km IR implement processing of forward and backward in time propagation of PMW rainfall, and the final morphing of the propagated rainfall (CMORPH) The final CMORPH/QMORPH products will be benchmarked against equivalent products running operationally at NCEP/CPC.	614.3
614.4-006-00	LDCM Database Support	The contractor will: - Support Oracle database upgrades and operations including database backups and user SQL queries - Support DocMGR operation, upgrades, and posting new content and user account management - Support PostgreSQL database upgrades, operations including database backups for DocMGR application and others. - Help to catalog the Citadel-derived telemetry database	614.4
614.5-002-05	OMI SIPS Development and Operations	Provide support for the Science Data Processing System currently used for the Ozone Monitoring Instrument (OMI) Science Investigator-led Processing System (SIPS). The system will also used for processing data from other instruments.	614.5
614.5-006-01	Technical Information Services for Codes 614.4 and 614.5	The Contractor shall provide technical support for on-site Government science and engineering workstations and peripherals, UNIX and LINUX workstations and peripherals, and manage information about the local-area-network needs of Code 614 as the rib-manager for these networks. The Contractor shall: A. Install software and peripherals in Apple Macintosh and Intel-based science and engineering workstations for supported personnel in Code 614 and others. B. Troubleshoot hardware, software and system problems in science and engineering workstations and associated peripherals. C. Effect the "backup and restore" of data on science and engineering workstations for supported personnel in Code 614. D. Perform systems administration support of Microsoft Windows and handle specialized computer printing requirements and the updating of software licenses. E. Respond to and identify network problems, and forward them to the appropriate support person or group; and provide network connectivity information to support staff or Codes 614 staff. F. Manage and implement a secure computing environment by monitoring and reporting computer-security problems, installing new and improved software (login banner, virus checkers), and proposing and implementing security practices. G. Provide computer systems administration support for the Code 614 Laboratory Computing Facility. H. Send out regular bulletins to supported users to address problems and critical issues. I. Provide computer systems administration support for supported UNIX and LINUX workstations in Codes 614 and others to include: 1) initial installation of the OS, latest patches, and commercial or free software (without known security problems); 2) installation and configuration of approved hardware; 3) troubleshooting of hardware malfunctions; 4) set-up and configuration of a WEB/FTP server, if the site is hosted on a client machine; and 5) backups for clients using the Computing Facility backup server, or installation and configuration of backup hardware and software for clients providing their own backup systems.	614.5
614.5-007-01	System Administration for Code 614.5 Global Processing Systems	The Contractor shall provide computer systems administration support for the following: 1) the MODIS Adaptive Processing System (MODAPS); 2) the MODIS Team Leader Science Computing Facility (TL-SCF); the Science Investigator-led Processing System (SIPS) for the Ozone Monitoring Instrument (OMI); 4) the Land Product Evaluation and Test Element (PEATE) for the Visible/Infrared Imager/Radiometer Suite (VIIRS) on the National Polar-orbiting Operational Environmental Satellite System (NPOESS) Preparatory Project (NPP); and 5) the PEATE for the NPP Ozone Mapping and Profiler Suite (OMPS). In performing the work, the Contractor shall: A. Manage, log, report, diagnose, and correct observed and reported software, hardware, and network problems. B. Implement, manage, and execute backups of supported computer systems C. Manage and implement a secure computing environment by monitoring and reporting computer security problems, installing new and improved software, and proposing and implementing security practices. D. Perform operating system, compiler, and application software updates to maintain performance and security of the systems. E. Update and maintain information on the configuration of the systems being supported. F. Integrate new computers, peripherals and network switches/routers into the computing facilities listed above. G. Monitor and tune data systems to improve performance and reliability in generating, archiving and distributing global remote sensing science products. H. Develop Perl scripts and web pages as required to support system administration functions or other activities supporting global product generation, distribution or outreach to the community. I. Maintain and enhance the SATE web site used for account management on computer systems managed by the Terrestrial Information Systems Branch. J. Develop and maintain on-line documentation of systems administration procedures.	614.5
614.6-003-07	Remote Sensing of Sea Surface Salinity	Support for research on remote sensing of sea surface salinity. Provide modeling, analysis, and algorithm development for research on remote sensing of sea surface salinity being done to support the Aquarius mission.	614.1
614.6-004-08	Radar Design and Data Analysis	The primary objective is to maintain and upgrade the FORTRAN codes for three operational TRMM Precipitation Radar algorithms designated as 2a21, 3a25, and 3a26. The work includes: examining and displaying the output products, modifying the code for improvements and corrections, and testing alternative versions of the algorithms. A secondary objective is to model and simulate the performance of spaceborne and ground-based weather radars. The focus will be on the dual-frequency precipitation radar (DPR) that has been proposed for the Global Precipitation Mission (GPM). The work includes simulation of spaceborne and ground-based radar measurements from cloud-resolving model data and assessment of various retrieval algorithms from the simulated data.	614.6

660.0-001-04	Spitzer Analysis of Swift BAT AGN	Analyze observations of x-ray selected AGN (from the Swift BAT survey) in the Spitzer archive. Identify the most appropriate candidates for follow-up IR and optical photometry to support current proposal efforts to expand the scope of the science. Reduce data with the goal of publishing a series of papers to follow on the original survey paper published in early 2010.	660
660.1-001-04	RXTE Guest Observer Facility Support	The contractor shall support the RXTE Guest Observer Facility in the areas of software maintenance, data ingest, data archive maintenance & oversight, generation of scientific data products and user support.	660.1
660.1-002-05	Suzaku Guest Observer Facility Support	This effort includes support for the Guest Observer Facility, including support for project-level reviews.	660.1
660.1-003-06	Swift Science Center Support	Support the Swift Science Center (SSC) with data analysis software, s/w integration & testing, on-orbit instrument calibration, the Guest Investigator Program, and preparation of outreach materials for cognizant scientists.	660.1
660.1-004-07	XTE SOC S/W	This work activity supports operations and planning activities at the SOF level, and also includes coordination of efforts between the other SOC elements.	660.1
660.2-001-04	ASD Computing & IT Support	The Contractor shall be responsible for the systems management of the ASD computing environment including hardware and software for computers and networks. The Contractor shall assist in defining requirements for the acquisition of new hardware equipment including workstations, peripheral devices such as juke boxes, disks, printers, tape drivers, optical disk drivers, and memory. The Contractor shall assist in defining requirements for the acquisition of new and updated software including science related software such as IRAF/SDAS/PROS, IDL, and Mongo; system software such as Sun Solaris, Digital UNIX, A.M.A.N.D.A., Utilities; word/text processing software such as TeX/LaTeX and Framemaker; and other software such as Mathematica, NAG, and Object Center. The Contractor shall be responsible for installing and configuring new hardware and software acquired. The Contractor shall be responsible for network management including attaching hosts to the network, troubleshooting system and network related problems. Coordination with the ODIN vendor, when appropriate, is also required. The Contractor shall be responsible for planning, monitoring, and implementing system and network security practices and shall be responsible for system management including the maintenance of hardware and software inventory lists. The Contractor shall be responsible for implementing directives from the GSFC Chief Information Officer including mandatory security issues, testing, email and system logging regulations. The Contractor shall be responsible for providing after hours, holiday, and weekend support for mission critical activities within the ASD computing environment. The Contractor shall be responsible for providing optimal and standardized user workstation configurations of files, applications, and file system structures as well as user support. Report detailing activities performed during the previous month.	660.2
661.0-002-05	Fermi LAT Team Support	Perform systems engineering and software configuration management for the Fermi LAT instrument team.	661
661.0-003-06	Fermi Science Support Center	Support the development, validation and testing of operations and analysis software pertinent to the Fermi mission.	661
661.0-005-08	HEASARC E&PO Support	The contractor will lead workshops for middle and high school teachers on topics relevant to the HEASARC and to scientific results from the Suzaku and Astro-H missions, including the origin of the elements, the big bang, and the life cycles of stars. The contractor shall also work with ASD outreach personnel to prepare lesson plans and other E/PO materials.	660.1
662.0-001-04	HEASARC Database and Web Support	This effort provides support for the HEASARCs database and archive and ensures that they are fully available to the science and public communities. The contractor shall maintain and ensure quality of HEASARC data holdings; develop and maintain software systems for access to HEASARC data; incorporate new missions and datasets into the HEASARC; support collaborations with other NASA and non-NASA archives; support science research with HEASARC resources.	662
662.0-002-05	HEASARC Software Support	Contractor shall support all aspects of general (non mission-specific) HEASARC data analysis software, including development, maintenance, configuration management and public releases.	662
662.0-004-07	HEASARC Mission-specific Software Support	This work activity consists of development, testing, maintenance and support for mission-specific HEASARC data analysis software.	662
662.0-006-09	X-Ray Microcalorimeter Development Support	The contractor will provide support for developing advanced high resolution x-ray microcalorimeters (both silicon-based and superconductor-based) and their near-term applications (laboratory astrophysics and sub-orbital observations).	662
662.0-008-01	Astro-H/SXS Detector Assembly Subsystem Support	The contractor shall support the development of the Astro-H/SXS detector assembly, a subsystem that interfaces the cryogenic x-ray calorimeter detectors to the rest of the SXS instrument electrically, mechanically, and thermally. This shall include the production of breadboard components and support for the production and qualification of an engineering model unit, a flight unit and a flight spare unit.	662
665.0-001-04	LAMBDA Data Archive	The contractor shall assist developing and maintaining the Legacy Archive for Microwave Background Data and Analysis (LAMBDA) data center and its web site. This includes development of web site and archive features and tools, selecting, preparing, ingesting, and processing of WMAP and other CMB data sets, and outreach and logistical support.	665
665.0-002-05	WMAP Science Data Support	The contractor shall assist in developing, writing, and documenting the WMAP science data processing software. This includes developing algorithms for reading and guality-checking the raw, time-ordered science and ancillary data, and in supporting the development of software to enable map-making, systematic error analysis, and science data analysis, including removal of the Galactic foreground. The contractor shall also support the software activities of the WMAP Mission Operations group as required. Computer systems support for the WMAP project is also included.	665
665.0-003-06	Cosmic Microwave Background (CMB) Observations and Instrumentation	Support development, testing, and deployment of instruments to measure the cosmic microwave background.	665
665.0-005-08	FIR/Submillimeter Interferometer Design Studies	The contractor shall support science requirement specification for the Single Aperture Far-IR (SAFIR) telescope, the Space Infrared Interferometric Telescope (SPIRIT), and the Submillimeter Probe of the Evolution of Cosmic Structure (SPECS). The contractor will collaborate with members of the SAFIR, SPIRIT, and SPECS mission concept study teams to perform these functions. The contractor will also provide support for development of software for the Widefield Imaging Interferometer Testbed (WIIT).	665
665.0-007-10	IR Instrument Development	The purpose of this Work Activity is to support the development of IR, far-IR, and submillimeter instruments, and the technology and infrastructure that are required for those instruments. The effort supplied under this Activity includes technology development, design, fabrication, testing, calibration and characterization, field and flight operations, as well as scientific data analysis and modeling. Administrative/logistical, documentation, and organizational support are also included.	665
665.0-008-11	GALEX Guest Investigator (GI) Support	GALEX is a NASA UV imaging and spectroscopic survey misison that will study star formation and its evolution over the redshift range 0-2.5,GALEX Guest Investigators (GIs) are awarded observing time and/or funding to carry out scientific investigations using GALEX data. This work activity provides logistic and technical support to the GALEX Project Scientist in operating the GI program.	665

665.0-010-13	Multivariate Galaxy Luminosity	The purpose of the activity is to support development and studies of optical-to-infrared luminosity functions of galaxies. Photometry and spectroscopy of galaxies from several on-line databases will be used to perform principal component analysis to determine the most relevant dimensions of the dataset. This will be followed by a determination of the dependence of the optical and IR colors on luminosity.	665
665.0-011-03	Long Wavelength Detector Development	Provide development support for components, instrumentation, and equipment for test, fabrication, and assembly of long wavelength detectors for astrophysical research.	665
665.0-012-02	Low Noise Electronics for LISA Metrology	The Laser Interferometer Space Antenna (LISA) is a NASA/ESA planned gravitational wave sensor. To achieve the required high sensitivity, LISA must employ very low noise infrared photoreceivers to allow the infrared laser metrology system signals to be readout to high precision. For this effort, the contractor will provide support for the assembly, design, evaluation and electronic testing and analysis of prototype photoreceivers and voltage references and associated circuitry to achieve the LISA requirements. The required photoreceivers will be assembled in both a single channel version and a quadrant sensor configuration and must have a wide bandwidth (greater than 20 MHz), high linearity and very stable phase shift characteristics over the entire useful bandwidth.	663
665.0-016-01	Origins Detector Technology Support	The purpose of this Work Activity is to support the development of detector technologies for far-infrared and millimeter-wavelength instruments such as PIPER and GISMO. The effort supplied under this activity includes technology development, design, programming, testing, calibration and characterization, field and flight operations, as well as scientific data analysis and modeling. In addition, some administrative, logistical, documentation, and organizational support will be provided.	665
665.0-017-01	CLASS Detector Testing Support	GSFC is currently developing detectors for the CLASS (Cosmology Large Angular Scale Surveyor) instrument in collaboration with Johns Hopkins University. The Observational Cosmology Laboratory is working closely with the Detector Development laboratory to build and deliver these detectors. The purpose of this effort is to support a lab technician to play a major role in testing detector parts. The contractor will be responsible for designing/fabricating laboratory test setups in collaboration with senior personnel and operating cryogenic vacuum systems and reporting the results of the detector tests in a timely manner. General experimental skills are also required. These include, but are not limited to experience with electronics, data acquisition, mechanical design, and cryogenics.	665
667.0-003-06	Wide Field Camera 3 (WFC3) Support	The purpose of this activity is to provide support to the Instrument Scientist for the Wide Field Camera 3 Project for the Hubble Space Telescope. The principal concentration of work is in the GSFC Detector Characterization Laboratory (DCL), where tests of candidate detectors are carried out and the resulting data are analyzed. Support is also required for instrument-level testing and calibration support and analysis.	667
667.0-008-11	STIS Science Support	The contractor shall support analysis of NASA observations, primarily from the Hubble Space Telescope Imaging Spectrograph (STIS) and Cosmic Origins Spectrograph (COS), as well as related ground-based observations. Tasks will include measurements, modeling, and database management.	667
670.0-001-03	Heliospheric Science Story Development	Position Description: Science Writer/Web Editor Specific Job Duties: Research and write for NASA Public Affairs 15-20 media products (Press Releases, Web Features, Media Advisories, fact sheets, podcasts) annually on cutting-edge solar science research, as assigned. Capture, post and format image rich stories for the web. Conduct assessments of the news value of selected journal articles and meeting presentations; recommend appropriate Public Affairs products based on this evaluation. Respond to inquiries from journalists for interviews and images related to media products created by the team.	130
670.0-002-03	SPDF Heliophysics Data Services	The contractor shall support the Space Physics Data Facility (SPDF) project as it provides unique correlative multi-mission and cross-disciplinary value-added heliophysics data services and special products. SPDF is responsible to ensure maximal clarity in the meaning and appropriate use of data; to provide all data services robustly, with high performance, unique functionality and taking maximum advantage of automation and distributed capabilities in the broader community; to engage on a continuing basis with the external science community, to establish science data needs against SPDF's capabilities and set future SPDF priorities; and to manage all aspects of SPDF to satisfy NASA and community requirements for system security, the integrity and preservation of data and continuity of data services.	670
670.0-003-03	VITMO Support	The contractor shall support the Virtual Ionospheric-Mesospheric-Thermospheric Observatory (VITMO). VITMO will provide ITM research scientists with integrated access to distributed and diverse scientific data holdings, models and tools, with the specific objective to allow ITM processes to be studied more completely as systems. VITMO will be a common, extendable portal to ITM data, models, and tools, focusing to data sources including TIMED, AIM, C/NOFS, UARS, SuperDARN, CDAWeb, SSCWeb, and ModelWeb, and coupled with a strong understanding of ITM community needs. Primary VITMO development is a joint effort of JHU APL and NASA Goddard.	670
670.0-004-01	Solar Science Outreach	Develop and maintain 3D Sun iPhone app that pushes STEREO solar images to users. Extend app to include support for iPad and delivery of SDO images. Research, develop, and consult on Solar Physics articles. Develop Heliophysics Augmentation program that subscribes students and teachers to a text messaging system that provides alerts and updates on news and events relating to the Sun and associated Heliophysics activities. Extend program to support SDO and Journey to the Stars outreach activities.	670
671.0-001-01	Support for Solar Imagers and Spectrograph Systems	The contractor shall support the specification, design, fabrication, integration, and testing of detector systems for space-borne solar imagers and spectrographs, including the SPICE instrument on Solar Orbiter and the EUNIS sounding rocket instrument.	671
671.0-002-01	Support for Solar Orbiter SPICE Instrument	Provide mechanical and opto-mechanical design support for the SPICE (Spectral Imaging of the Coronal Environment) instrument selected to fly aboard the joint ESA/NASA Solar Orbiter mission scheduled for launch in 2017. Support development of SPICE instrument in the following areas: (1) Investigate the current slit mechanism design concept to reduce risk. Investigate mechanism volume, method for moving the slits into the field of view, consideration for thermal demands, actuator and bearing selection, etc. (2) Design concepts/options that will reduce programmatic risks and better define tall poles and any potential slit mechanism issues. (3) Scope expanded on 1/1/10 with additional requirements to support Phase A design and development of SPICE Intensifier by Sensor Sciences, LLC. (4) Design the setup for testing and calibrating the SPICE detector. Identify equipment and facilities available to carry out the test, and what needs to be acquired. (5) Oversee the preparation for performing the test. Carry out the test and calibration of the SPICE detector. The test of the SPICE breadboard detector will be carried out in late 2010 or early 2011. Work on the engineering and flight models will be carried out in subsequent years.	671

672.0-001-02	VEPO IHY-IPY Support Services	The Virtual Energetic Particle Observatory (VEPO) project of Goddard's Heliospheric Physics Laboratory is a continuing NASA-supported initiative to develop automated capabilities for discovery and access of heliospheric energetic particle and supporting ancillary data in the U.S. and international heliophysics data environment. VEPO improves access and usability of selected Heliospheric Network and sub-orbital NASA heliospheric energetic particle data sets as an ongoing development effort within the evolving heliophysics virtual observatory program of NASA. The VEPO team is organized to operate as a focus group within the broader heliospheric science scope of the Virtual Heliospheric Observatory (VHO) and is working to support user queries for VEPO-relevant data products through existing interfaces and evolving middleware of VHO. This approach enables complex queries for distributed data types and key parameters registered with VHO. Priorities in the third and final year of the VEPO project, as originally proposed, are to complete registration of metadata descriptions of selected VEPO-related data products from the Helios 1&2, Voyager 1&2, Ulysses, SOHO, and Wind missions, and to register new solar energetic particle from the two Stereo spacecraft. Registry of ground-based neutron monitor data products will also be extended. These descriptions must conform to evolving standards of the Space Physics Archive Search and Extract (SPASE) standard lexicon in XML format to enable data queries and interoperability with distributed U.S. and international data repositories and other virtual observatories. Standards definition and refinement for the descriptive metadata is undertaken in collaboration with the extended VEPO team at Goddard, Applied Physics Laboratory Johns Hopkins Laboratory, University of New Hampshire, Fundamental Technologies LLC of Lawrence, Kansas, and the Ulysses Data System (ESTEC-ESA, the Netherlands) through interaction with open community forums for SPASE and VxO development. Although this initial phase of the VEPO project does not support development of query capabilities independent of VHO, the project will implement and maintain a separate web interface describing the VEPO data environment and linking to VHO query services. This task additionally supports IHY through implementation of the Goddard-based permanent web site of the Polar Gateways Arctic Circle Sunrise conference at Barrow, Alaska. FY10 funding of this task is being augmented for additional task work elements in support of the task monitor's LunaSOX (Lunar Surface Origins Exploration) Focus Group project to extend the registry of VHO to plasma and related magnetic field data from the Apollo-era constellation of lunar surface, lunar orbital, and geospace solar wind instruments and to support improved modeling of solar wind interactions with the Moon. This project is implementing a hybrid kinetic computational model for the lunar plasma interactions as calibrated to upstream solar wind monitor data and to surface and lunar orbital measurements from the Apollo missions. Available data will be conditioned in ASCII format for access through the new LunaSOX Data Browser and a VEPO-like web interface will be implemented for access to LunaSOX data products registered into VHO. LunaSOX work may continue at declining funding levels through FY13.	672
672.0-002-01	Heliospheric Education with CUNY	This project involves CUNY working with GSFC Heliophysics Science Division to provide college/university faculty professional development, curriculum enhancement and academic program development, and undergraduate student research on Heliophysics sciences. Goddard colleagues will also provide support to high school teacher professional development so that they can develop Heliophysics enrichment activities and research for their students.	672
672.0-003-01	iPhone Viewer for Space Weather	To create and to publish via on-line stores iPhone and Droid applications, i.e. apps, to meet the following objectives: * To provide a new and compelling method for K-□12 students and educators to access information about NASA missions and NASA datasets. * To extend the activities found in the Space Weather Action Center and other classroom based activities.	672
672.0-004-01	Podcasts for NASA Missions	Mission Support: Podcasting and Social Media The Sun-Earth Day program coordinates scientific and educational resources of NASA's heliophysics missions to tell a compelling and coherent story of the processes and phenomena that cover nearly all aspects of the system-wide interconnections within the heliosphere. It is one of NASA's most successful efforts to communicate heliophysics content to students, teachers, and the public. This program provides missions with the opportunity to engage millions of students, teachers and the general public, both nationally and world-wide. Currently, our registered impact extends to 11,900 educators, 3,700 museums, and 11,300 scientists who are aware of our resources and participate in the annual SED activities. Our web-based resources, webcasts and podcasts have been accessed over 200 million times since SED began in 2000. Ongoing communication between Heliophysics scientists, educators and the general public is greatly enhanced by through Sun-Earth Day's growing social network (i.e. Facebook, Twitter, YouTube). This network excels at user interaction and communication, providing the perfect framework for the SED community to share feedback and ideas. It also provides a venue to provide real-time updates on space weather, sunspots, aurora, E/PO events and missions. Integrating RHESSI and IBEX information into these networks will strengthen the relationship we have with our existing community and broaden the reach of our E/PO programs. The SED team will enhance the online outreach presence of RHESSI and IBEX through the development of a series of dedicated podcasts focused on the latest mission science and education information. The series would be promoted through existing SED resources and our growing network of scientists, educators, students and museums. Content for each podcast in the series would include a wide range of topics including: scientist interviews, mission highlights, featured activities, website information, multimedia resources, etc. Links to each podcast would be made available on the SED and mission websites. The podcast series would also be enhanced through the development of a 'Primary Source' activity designed to show users how to integrate each podcast with existing mission videos, image galleries, the Space Weather Media Viewer and the Space Weather Action Center program. Overall, this activity will provide them with the perfect opportunity to begin their own research using mission data as a 'primary' source. Teachers can also use the videos and descriptive podcasts to enhance their curriculum.	672
673.0-001-02	Lunar Potential Determination Using Apollo-Era Data and Modern Measurements and Models	This work activity is intended to support a detailed analysis of ALSEP/SIDE (Apollo Lunar Surface Experiment Package / Suprathermal Ion Detector Experiment) data using modern measurements and models. The Project Scientist for the Apollo 12, 14 and 15 investigations will lead the effort to identify appropriate ALSEP/SIDE time periods for both TID (Total Ion Detector) and MA (Mass Analyzer) and generate measured surface potentials.	673
673.0-002-02	VWO Science Support Services	The Virtual Wave Observatory (VWO) project is one of the NASA SMD Heliophysics VxOs with the goal to make all Heliophysics plasma wave and radiation data searchable, understandable and usable by the Heliophysics community. To this end, the VWO will provide uniform and robust access to distributed space plasma wave and radiation data, metadata, and services for the wave-oriented Heliophysics research community. VWO will extend Heliophysics Virtual Observatories into wave-specific datasets that span most Heliophysics domains: solar wind, interplanetary space, terrestrial magnetosphere and ionosphere, and planetary magnetospheres.	673
673.0-004-01	TOPIST ISIS Data Processing	To support several of the activities proposed on the ROSES2008 Geospace 4-yr award entitled "Establishing links between solar-wind and topside-ionospheric parameters."	673
674.0-003-01	Electric Field Sounding Rocket Support	Provide support for the development, design, construction, testing, and deployment of sounding rocket instrumentation for measuring characteristics of electromagnetic fields near the Earth.	674
674.0-004-00	MMS EPO Support	Provide Education and Public Outreach (EPO) support for the Magnetospheric Multiscale (MMS) mission. Responsibilities include the planning, coordination, implementation, and management of the MMS mission's outreach activities to meet NASA's EPO goals and guidelines.	674
690.0-003-06	SSED Systems & Network Support	Solar System Exploration Division (SSED) System and Network Support (Division system administrators). Provide desktop, Division server, and peripheral system administration support and network administration for the Solar System Exploration Division. Ensure adherence to Agency and Center security standards.	699

690.0-004-01	Solar System Exploration Story Development	Develop Goddard Space Flight Center Planetary science stories. Write press releases and web articles based on Goddard Planetary science mission activities, research and development. Prepare content for NASA portal websites and the Planetary Division website. Specifically: -- Research science results and initiatives through journals, abstracts, lectures, and in-person interviews of Planetary Division scientists. -- Review packages submitted to export control for approval to determine "news worthy" items that should be pursued further. These would primarily be related to publications, and presentations by Divisions scientists. -- Write news releases, media tips, media advisories, web features and internal newsletter articles. -- Propose and support press conferences and news campaigns. -- Prepare reports on planetary science news coverage and on publishing of scientific results. -- Inform journalists of NASA news stories -- directly and through distribution outlets (Eurekalert, etc.) -- Gather content for NASA portal pages and Planetary Division website. -- Inform and work with the Goddard Public Affairs Office, specifically PAO Lead for Planetary Division, on all stories being worked. -- Work with PAO Lead and Planetary PAO Liaison to determine prioritization of stories and to solidify accompanying visualizations and animations, when necessary. -- Attend weekly Goddard News Chief Media Tag-up meeting. -- Attend bi-weekly Planetary Public Affairs Team meeting. -- Collaborate with NASA TV producers and Scientific Visualization Studio on imagery and animations. -- Write Code 690 Annual Report with content input from lab chiefs and Solar System Exploration upper management	690
690.1-002-02	International Standards Development	Support NSSDC in international standards development and related NASA-NARA research. Specifically, this includes research described in the NASA/NARA Interagency Agreement and recent FY08 proposal to NARA. This involves communications with NASA, national, and international participants in the development of the Producer-Archive Interface Specification standard, tutorial, and related software. The support will be provided from a location remote from both contractor and Federal facilities, except for an occasional meeting when necessary. Provide reviews and responses to issues raised; provide suggested updates to draft standard and tutorial documents; provide updated requirements for supporting software. Provide additional digital preservation research support to NSSDC as requested and funded.	690.1
690.1-003-02	NSSDC Ingest	NSSDC is a multidiscipline archive supporting the permanent archiving of NASA's Space Science data and related metadata. Specifically, this covers astrophysics, solar and space plasma physics, and lunar and planetary science data. NSSDC acquires data and metadata from NASA's active archives, and, when mediated by these active archives, directly from space flight missions and individual principal investigators. The two main customers are the Planetary Data System and the Space Physics Data Facility. The contractor will design specific modes of data ingest applicable to these two cases; namely, data bricks for PDS and electronic for SPDF. NSSDC manages data both in on-line modes and in off-line stores of tapes, film, and other media, and it disseminates data worldwide. As NSSDC acquires scientific data, a major requirement is to acquire sufficient documentation to ensure that the scientific data is independently understandable, preservable, and usable into the indefinite future. The details of how this is accomplished will evolve and typically varies among the disciplines. This effort focuses on data ingest, specifically the development of software and procedures that support the ingest and archiving of data within the NSSDC. The contractor is expected to manage the NSSDC archives to ensure that data are received with sufficient supporting materials and that data and Preservation Description Information are packaged into Archive Information Packages to be reliably findable, retrievable, and usable into the indefinite future.	690.1
690.1-004-02	NSSDC Data Management	NSSDC is a multidiscipline archive supporting the permanent archiving of NASA's Space Science data and related metadata. Specifically, this covers astrophysics, solar and space plasma physics, and lunar and planetary science data. NSSDC acquires data and metadata from NASA's active archives, and, when mediated by these active archives, directly from space flight missions and individual principal investigators. NSSDC manages data both in on-line modes and in off-line stores of tapes, film, and other media, and it disseminates data worldwide. As NSSDC acquires scientific data, a major requirement is to acquire sufficient documentation to ensure that the scientific data is independently understandable, preservable, and usable into the indefinite future. The details of how this is accomplished will evolve and typically varies among the disciplines. This task focuses on data management, specifically the development of software and procedures that support the tracking and archiving of metadata within the NSSDC. The contractor is expected to ensure that data are received with sufficient supporting materials and that both data and metadata archived so as to be reliably findable, retrievable, and usable into the indefinite future. The main focus of this task is to enable the Space Science Virtual Observatories and Resident Archives through implementation of the SPASE interlingua. Contractor will lead the NSSDC's participation in the Space Physics Archive Search and Extract (SPASE) as follows: a) assist in the evolution of the SPASE Data Model. b) support the development of SPASE technical software and/or mapping or translating metadata as needed to make NSSDC data holdings available to users of the SPASE system. c) providing support to host the SPASE website	690.1
690.1-005-02	NSSDC Archival Storage	NSSDC is a multidiscipline archive supporting the permanent archiving of NASA's Space Science data and related metadata. Specifically, this covers astrophysics, solar and space plasma physics, and lunar and planetary science data. NSSDC acquires data and metadata from NASA's active archives, and, when mediated by these active archives, directly from space flight missions and individual principal investigators. NSSDC manages data both in on-line modes and in off-line stores of tapes, film, and other media, and it disseminates data worldwide. As NSSDC acquires scientific data, a major requirement is to acquire sufficient documentation to ensure that the scientific data is independently understandable, preservable, and usable into the indefinite future. The details of how this is accomplished will evolve and typically varies among the disciplines. The effort includes the activities needed to support the normal operations of the NSSDC, i.e. storing and managing the media collections which comprise the archive, both on-site at GSFC and off-site storage facilities, updating the databases with new and updated metadata, managing NSSDC related documentation, and monitoring, doing and reporting data ingest. Data ingest will be packaged as Archival Information Packages (AIPs), the key component for NSSDC ingest and preservation functions. Some data will be packages in AIPs when received, other datasets will be stored on their transfer media for an interim time until they can also be made into AIPs.	690.1
690.1-006-02	NSSDC Interactions	NSSDC is a multidiscipline archive supporting the permanent archiving of NASA's Space Science data and related metadata. Specifically, this covers astrophysics, solar and space plasma physics, and lunar and planetary science data. NSSDC acquires data and metadata from NASA's active archives, and, when mediated by these active archives, directly from space flight missions and individual principal investigators. NSSDC manages data both in on-line modes and in off-line stores of tapes, film, and other media, and it disseminates data worldwide. It is important that the curation staff interact with the mission or data providers; a monthly summary of those interactions will be required. In addition, the curation staff must work with the government lead to negotiate any impending data delivery or distribution. As NSSDC acquires scientific data, a major requirement is to acquire sufficient documentation to ensure that the scientific data is independently understandable, preservable, and usable into the indefinite future. The details of how this is accomplished will evolve and typically vary among the disciplines. In support of the goals above this task provides support to NSSDC for areas which reach across the breadth of NSSDC operations, i.e. those affecting the Overview of the project, and which are enumerated in the requirements below.	690.1

690.1-007-02	Planetary Data System Management Support	The Solar System Data Services Office has been assigned the responsibility by Headquarters to supply Program Management services for the Planetary Data System, support staff for the PDS Lunar Data Node, infrastructure for the restoration of Apollo data, and various educational programs such as Solar System on a Sphere and other duties as assigned. Requires occasional travel to appropriate science or project meetings, to present activities, demonstrate capabilities, or to interact with users and potential data providers.	
690.1-008-02	LACE Restoration	The contractor is responsible for supporting the restoration of Apollo 17 Lunar Atmosphere Composition Experiment (LACE) data sets, the conversion of the data to a modern data format, and the packaging of the data for submission to the Planetary Data System (PDS). Occasional travel is required to appropriate science conferences and workshops to present activities, to support data investigators reviewers who attend meetings and lunar data peer review panels, or to interact with users and potential data reviewers	690.1
690.1-009-02	Lunar Data Node	The contractor is responsible for supporting the restoration of Apollo data sets of relevance to the new lunar exploration program. Travel Requirements: Occasional travel to support acquisition of lunar data from other archives and data providers, to support data reviewers who attend lunar data peer review panels, to promote outreach at conferences and workshops, or to interact with users and potential data providers may be required.	690.1
690.1-010-02	Sun Earth Day	The Sun-Earth Connection Education Forum (SECEF) promotes NASA's Heliophysics science results on a national level for the purposes of education in the classroom and for the knowledge and edification of the general public. The SECEF group at NASA/GSFC and a group at the University of California Berkeley work together to seek and utilize high leverage opportunities to benefit NASA's education and public outreach through the work being done by NASA-supported Sun-Earth Connection missions, programs, and scientists. SECEF supports NASA Hq Science Mission Directorate in the area of Heliophysics education and outreach. The main responsibility is coordination and communication with the Heliophysics missions and scientists and the education and outreach efforts that they do. This assures a unified approach to the subject, prevention of redundant efforts, focus on high priority topics, identification of important gaps in the education effort, reporting of results of the education and outreach efforts, coordination with the general NASA Education and Public Affairs Offices, etc. SECEF also organizes and operates education programs such as Sun-Earth Day, the Heliophysics aspect of the International Year of Astronomy, Space Weather Action Centers, and other programs for which funding has been received through NASA competitive grant programs. These are often done in partnership with other organizations.	690.1
690.1-013-01	Challenger Space Weather	The Space Weather Action Center Team will train CLCs in the use of green screen technology, SWAC, and space weather science content. It is anticipated that each participating Challenger Learning Center will agree to the following: * Implement space weather into their Challenger Learning Center Missions * Participate in training to learn the content and the use of SWAC * Become proficient in the SWAC technology: green screen, space weather content, podcasts * Provide Professional Development programs for teachers * Encourage their teachers to complete audio and/or video Space Weather reports on a regular (daily/weekly) basis to http://sunearthday.nasa.gov/swac Once the Challenger Center Space Weather Team (CCSWT) is incorporated into the simulated space flight missions, it will be sustained and upgraded by the CCSSE system just as the existing teams are currently supported. The SWAC Website http://sunearthday.nasa.gov/swac and the Space Weather Media Viewer will be maintained and updated under the auspices of the SWAC Team.	690.1
691.0-001-01	Scientific and Administrative Support for the Messenger Mission	The contractor shall provide both scientific and administrative support for the Astrochemistry Laboratory in the Solar System Exploration Division at NASA/ Goddard Space Flight Center. The statements of work for each of these areas of support are listed separately in this document, with the requirements for the scientific work and for the administrative support as described below. SCIENTIFIC SUPPORT: The contractor shall support the development of theoretical modeling for the x-ray and gamma ray emissions from planetary surfaces, assist in the calibration of space flight instrument systems, and develop scientific data analysis and interpretation software. In addition, the Contractor shall assist and support incidental activities necessary for maintaining laboratory operations. These activities will include, but are not limited to setting up experiments, analyzing data, recommending new laboratory test equipment, performing unique analysis in support of upcoming proposals, and supporting the laboratories' education and technology development programs. The programs being supported under this effort are the MESSENGER mission to Mercury and neutron-gamma ray planetary science instrumentation development through the NASA/ROSES program. ADMINISTRATIVE SUPPORT: The Contractor shall also provide a variety of support services to NASA/GSFC's Astrochemistry Laboratory which includes both science managers, such as the Lab Chief and other group leaders and other members of the science staff.	691
693.0-001-04	Cassini CIRS	Assist the Cassini CIRS Science and Operations Team with IT support, command file generation, uplink sequence verification and analysis, and data (both science and housekeeping) retrieval, validation, and archiving, instrument housekeeping data analysis, and database management. Provide mechanical engineering design support for the CIRS-lite instrument.	693
695.0-001-04	Ulysses URAP Support	Ensure that the computer environments for processing and serving the data from the three missions is routinely operational. Develop and maintain data processing and analysis software for the three missions. Process data for the three missions and ensure that they are routinely available to the user community. Support archiving of data from the three missions. Analyze data and present results as part of the instrument teams for the three missions. Support web sites for the three missions for scientific use and for outreach.	695
695.0-002-05	Planetary Missions Support	Support SSED laboratory magnetic field investigations, research activity in the general area of planetary magnetic fields, magnetic measurements, and document preparation.	695
695.0-003-03	Planetary Missions Mechanical Engineering Support	The effort will provide Mechanical Engineering support to the JUNO FluxGate Magnetometer (FGM) team. This support will include interacting with the GSFC personnel, the JUNO project at JPL, the spacecraft vendor Lockheed Martin (LM) in Denver, the Advance Stellar Compass (ASC) vendor Technical University of Denmark (DTU) in Denmark, and other commercial companies.	695
699.0-001-04	Mass Spectrometer Instrument Development Support	This effort provides the engineering and technician support to design, build and test flight mass spectrometers and related components and to provide post-launch and mission support for the mass spectrometer instruments.	699
699.0-003-03	Laser Lab Support	Support for development of miniaturized instrumentation for future NASA astrobiology investigations. This includes, but is not limited to fabrication and assembly of mass spectrometer components and performance testing of mass spectrometer breadboards.	699
699.0-004-01	LADEE	This effort will provide engineering and technical support to design, build and test of instrumentation to support the Lunar Atmosphere and Dust Environment Explorer (LADEE), and to provide post-launch and mission support for the instruments.	699
699.0-005-01	MAVEN	This effort provides the engineering and technician support to design, build and test flight instrumentation and related components, and to provide post-launch and mission support for the Mars Atmosphere and Volatile Evolution (MAVEN).	699

699.0-006-01	Volatile Analysis by Pyrolysis of Regolith (VAPoR)	This effort provides the engineering and technician support to design, build and test flight instrumentation and related components, and to providepost-launch and mission support for the Volatile Analysis by Pyrolysis of Regolith (VAPoR).	699
699.0-007-01	Cassini (INMS & GCMS)	This effort will provide engineering and technical support to design, build and test of instrumentation to support the Cassini Mission and to provide post-launch and mission support for the instruments.	699